SECTION 3
AFFECTED ENVIRONMENT

3.0 INTRODUCTION

This section provides a description of the existing condition of the physical, natural, and human environment both on and within the immediate vicinity of the Airport. The categories presented reflect the relevant environmental disciplines contained in FAA Order 1050.1E. Aerial photography and the Talbot County Geographic Information System (GIS) database provided relevant information for the base maps, such as roads, road names, and other land uses.

3.1 EXISTING LAND USE, ZONING, AND COMMUNITY FACILITIES

ESN encompasses approximately 615 acres of land in central Talbot County, Maryland (refer back to **Exhibit 1.0-1**). The Airport is located within the northern end of the Town of Easton; however, it is a County-owned facility that is managed and operated by the Airport Manager and Talbot County Council with assistance from a five member Airport Advisory Board appointed by the County Council.

As mentioned above, the Airport is located within the northern limits of the Town of Easton. Areas to the north and west of the Airport are predominately outside of the Town's municipal limits. As a result, the overall comprehensive planning and zoning for these areas are governed by Talbot County; areas to the south and east are predominately within the Town of Easton's municipal limits and are governed by the regulations of the Town.

3.1.1 EXISTING LAND USE

According to the *2009 Draft Town of Easton Comprehensive Plan*, the land use designation for the Airport is Industrial. To the immediate north, land uses are Commercial/Industrial, Agricultural, and Forested. To the east of the Airport along US Route 50, land uses are a mix of Residential and Commercial/Industrial (see **Exhibit 3.1-1**). Most recently, approximately 275 acres of County owned property north of Airport Road, west of US Route 50, and south of the Talbot County Community Center were annexed to the Town of Easton. The property is adjacent to and contiguous to the present corporate boundary of the Town and is the proposed site of an acute care hospital operated by Shore Health Systems.

According to the *Talbot County Comprehensive Plan* (February 2005), the Airport is located within the incorporated town limits of the Town of Easton; therefore, the County does not assign a land use designation to the Airport or adjacent land to the south. According to the Plan, the land to the north of the Airport is designated as a Future Growth Area, to the east along US Route 50 is a mix of Business and Industrial, and to the west is an area of Countryside Preservation.

3.1.2 EXISTING ZONING

According to the latest zoning ordinance for the Town of Easton (effective April 7, 2008), the Airport is zoned I-1 (Select Industrial) (see **Exhibit 3.1-2**). Town limits extend only to a small portion of land just north of the Airport and north of Airport Road; this area is zoned I-1. Town limits to the east extend just beyond the east side of US Route 50; this area is zoned R10A (Residential District) and CR (Central

Business Commercial District). South of the Airport, zoning is governed by the Town and consists of I-1 on the west side of Route 322 and R7A (Residential District) and R10A on the east side of Route 322.

Land north and west of the Airport is located outside of the Town of Easton municipal boundaries and zoning is governed by Talbot County (see **Exhibit 3.1-2**). According to the latest zoning ordinance for Talbot County (effective December 7, 2007), County land to the north is zoned LI (Limited Industrial); to the west, zoning designations are TC (Town Conservation), CP (Countryside Preservation), and LI. An exception must be noted for the recently annexed property north of Airport Road, west of US Route 50, and south of the Talbot County Community Center. The Town recently amended the zoning ordinance to include this Annexation Property and applied the Regional Healthcare (RH) Zoning District to the majority of the land with a small portion zoned as Government/Institutional District (G/I).

3.1.3 COMMUNITY FACILITIES

A number of community facilities are located within the immediate vicinity of the Airport. The Hog Neck Golf Course and Easton Community Center are located approximately 0.5 mile and 1.0 mile, respectively, northeast of the Airport. North Easton Sports Complex is located approximately 0.2 miles east of Runway 33 and the Easton Church of God and Chesapeake Christian School is approximately 0.3 miles southeast of Runway 33. Tots Park is approximately 0.6 miles southeast of Runway 4.

3.2 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, was enacted in 1994 and directed each Federal agency to develop a strategy to address environmental justice concerns in its programs, policies, and regulations. The purpose of Executive Order 12898 is to avoid disproportionately high and adverse impacts on minority and low-income populations with respect to human health and the environment. On July 16, 1997 the US Department of Transportation (DOT) issued its final order on Environmental Justice as Order 5610.2.

To comply with the goals of this Order, the 2000 US Bureau of Census data was reviewed to determine the presence of minority and/or low-income populations. US DOT Order 5610.2 defines a minority population as "any readily identifiable group of minority persons who live in geographic proximity." CEQ regulations state that if the percentage of minority population within a given area within the proposed project area is 50 percent or greater, then these areas would be considered minority. ESN is located within Census Tract 9605 Block Group 1. Of the 1,884 people in Census Tract 9605, Block Group 1, 1,755 are non-minority (6.8% minority). Census information for the area surrounding ESN is shown in **Table 3.2-1**.

The US Bureau of Census follows the Office of Management and Budget's Statistical Policy Directive 14 and uses a set of money income thresholds that vary by family size and composition to determine both the poverty threshold and also who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. The poverty threshold for 2008, as

established by the US Bureau of Census, was used to determine the low-income populations within the vicinity of the Airport. The average household size is 2.36 persons per household for Census Tract 9605, Block Group 1, in which the Airport is located, and 2.34 for areas surrounding the Airport. For this analysis, the poverty threshold was established using the Bureau of Census information for a 3-person household, with one person being a child under the age of 18. Using this criterion, the average poverty threshold is $17,330. The median household income for Census Tract 9605, Block Group 1 is $40,900 and $47,203 for area surrounding the Airport. Therefore, the Census Block Group in which the Airport is located and the surrounding Block Groups are not considered to be low-income areas, based on the 2000 census information.

TABLE 3.2-1
COMMUNITY PROFILE

Block Group	Total Population	Non-Minority Population	Median Household Income ($)	Average Household Size	% Minority	% Low Income
9601.00-1	2,152	1,895	47,267	2.82	11.9	10.4
9601.00-2	1,986	1,718	50,100	2.67	13.5	8.2
9602.00-1	836	669	53,750	2.29	20.0	2.2
9602.00-2	559	533	75,131	2.26	4.6	6.2
9602.00-3	1,820	1,667	80,962	2.18	8.4	4.7
9604.00-1	1,299	850	23,472	2.16	34.5	10.2
9604.00-2	1,384	849	31,685	1.95	38.6	20.7
9604.00-3	761	557	33,385	2.13	26.8	18.4
9604.00-4	2,052	1,775	38,696	1.97	13.5	6.7
9605.00-1	1,884	1,755	40,900	2.36	6.8	2.5
9605.00-2	1,626	1,475	42,262	2.78	9.3	3.3
9605.00-3	2,330	1,982	48,831	2.54	14.9	2.9
TOTAL	18,689	15,725	47,203	2.34	--	--

Source: US Census Bureau, 2000.

Pursuant to Executive Order 13045, *Protection of Children From Environmental Health Risks and Safety Risks* (April 21, 1997), the FAA recently revised their policies and procedures for compliance with NEPA to include the assessment of environmental health and safety risks resulting from airport development projects that may disproportionately affect children. Currently, operations at the Airport have not been identified by any known source as adversely impacting the health or safety of children in the Easton area.

3.3 NOISE

This section describes the noise generated from ESN's current activities and the noise exposure to the surrounding community. The methodology used to generate the noise contours is described in the following pages. Also described are the Airport's noise exposure contours and their compatibility with surrounding land uses.

Aircraft noise is often the most noticeable environmental effect that an airport produces on its surrounding community. If the sound is sufficiently loud or frequent in occurrence, it may interfere with various activities or be considered a nuisance. Noise is defined as any sound that is undesired or interferes with one's hearing of something. The definition and identification of noise is highly subjective and can vary depending on both the individual and the current activity of the individual.

For aviation noise analyses, the FAA has determined that the cumulative noise energy exposure of individuals to noise, resulting from aviation activities, must be established in terms of a yearly day/night average sound level (DNL), the FAA's primary metric. Title 14 CFR Part 150, Appendix A, Table 1, provides a breakdown of compatible land uses for various levels of noise exposure as a function of DNL. The ranges of DNL values in Table 1 reflect the statistical variability for the responses of large groups of people to noise. Compatible or non-compatible land use is determined by comparing the predicted or measured DNL values at a site to the values listed in Table 1. Land use compatibility with yearly day-night average sound levels is shown in **Exhibit 3.3-1**.

3.3.1 METHODOLOGY

The terminology and metrics associated with aircraft noise relative to this analysis are complex, and are discussed in detail in **Appendix E**. In general and in this document, noise or sound levels are expressed in terms of A-weighted decibels (dBA).

Noise impacts at ESN were evaluated using methodologies developed by the FAA and published in Title 14 CFR Part 150. This regulation specifies that the DNL metric be used to determine the existing and predicted future noise exposure surrounding an airport. The DNL expresses the level of noise in A-weighted decibels and represents the noise level over a 24-hour period.

The DNL is sensitive to the time of day in which a noise event occurs. Events that occur during the nighttime period of 10:00 p.m. to 7:00 a.m. incur a 10-dB penalty per event. In effect, this means that one nighttime operation is weighted as the equivalent of 10 daytime operations. Thus, the metric accounts for the fact that nighttime noise is perceived as being much more intrusive than daytime noise.

The analysis for existing noise conditions was conducted using the Integrated Noise Model (INM), Version 7.0a, developed by the FAA. The INM model is the most commonly used method to predict airport noise contours and to analyze noise exposure in noise-sensitive areas. The FAA continually enhances the INM to take advantage of improved computer technology, incorporate new aircraft types into the aircraft noise database, and to update and improve the accuracy of its noise computation algorithms.

The INM was designed to model the noise from aircraft operations in the immediate vicinity of an airport. Numerous tests have proven its ability to accurately represent the DNL metric at distances from the airport out to DNL 65 dBA contour.

To develop noise contours, the INM calculates noise levels at many individual points surrounding the airport. Once a noise level has been calculated for each of these points, the INM determines which points have equal noise levels and then connects them with a continuous line to form the contour. In order to generate these contours, the following data were collected and entered into the INM:

- Airport characteristics including location, length and orientation of all runways; airport elevation; and average annual temperature;
- Average daily aircraft operations;
- Aircraft fleet mix (i.e., the types of aircraft);
- The number of daytime aircraft operations (7:00 a.m. to 9:59 p.m.);
- The number of nighttime aircraft operations (10:00 p.m. to 6:59 a.m.);
- Runway utilization rates;
- Primary departure, arrival, and touch-and-go flight tracks; and
- Flight track utilization rates.

A discussion of each of these items is provided in the following paragraphs. For ESN, noise contours were generated for DNL values of 65, 70, and 75 dBA.

3.3.1.1 Airport Characteristics

ESN has two runways: Runway 4-22 and 15-33. Runway 4-22 is the primary runway with a current length of 5,500 feet and a width of 100 feet. Runway 15-33 has a length of 4,003 feet and a width of 100 feet. Location information for these runways was entered into the INM in terms of latitude and longitude values for each runway end. The Airport elevation of 72 feet MSL and average annual temperature of 58.7 degrees Fahrenheit were also entered into the model.

3.3.1.2 Average Daily Aircraft Operations

Aircraft operations from January 1, 2008 through December 31, 2008 were used to model the Base Year (i.e. 2008). The total number of aircraft operations for the Base Year was 54,184, or 148 average daily operations. For purposes of this analysis, aircraft operations were sorted into categories that allowed for refinement of runway and flight track utilization in the INM. Air Taxi operations accounted for approximately 5.2 percent of aircraft operations during the base year. General Aviation aircraft comprised approximately 92.3 percent of operations and military aircraft contributed the remaining 2.5 percent. **Table 3.3-1** presents the 2008 Annual and Average Daily Operations by aircraft category

TABLE 3.3-1
ANNUAL AND AVERAGE DAILY OPERATIONS (2008 – EXISTING CONDITIONS)

Aircraft Category	Number of Operations		
	Annual	Average Daily	Percentage
Air Taxi	2,784	7.6274	5.14%
General Aviation – Itinerant	25,574	70.0658	47.2%
General Aviation – Local	24,437	66.9507	45.1%
Military	1,389	3.8055	2.56%
Total	54,184	148.4494	100%

Source: FAA, Air Traffic Activity Data System (ATADS), September 2009 and URS Corporation, 2009.

The average daily operations presented in **Table 3.3-1** were separated into departures, arrivals, and touch-and-go operations to complete the input file for the INM. It is assumed that an almost equal number of departing and arriving flights occur each day. Touch-and-go operations are conducted only by general aviation aircraft.

3.3.1.3 Aircraft Fleet Mix

Aircraft fleet mix refers to the types of aircraft that comprise total operations at the Airport. In order to accurately model the noise exposure levels generated around an airport, it is important to have accurate data regarding the aircraft fleet mix. The fleet mix at ESN during the base year was determined by reviewing of the Airport's ATCT records and discussions with the ESN staff. The resulting aircraft fleet mix is provided in **Table 3.3-2.**

TABLE 3.3-2
FLEET MIX

Category	Aircraft Name	
General Aviation Jet	Falcon 10 Falcon 20 Lear 35 Lear 36 Astra Lockheed Jetstar	Westwind Cessna 650 Global Express Gulfstream V Hawker 800-XP Raytheon Premier 1
General Aviation Piston and Turbo Prop	Cessna 441 Cessna 172	Beechcraft Baron 58P Pilatus
Air Taxi	Falcon 10 Falcon 20 Jetstream 31 Beechcraft King Air	Mitsubishi MU-2 Hawker 800-XP Pilatus
Military	Cessna 550 Gulfstream IV Gulfstream V Beechcraft King Air C12	Aerospatiale Dauphine Bell OH-58 Bell UH-60 Sikorsky H3
Rotor	Bell 206 Sikorsky 76 Robison R22	Robison R24 Aerospatiale Dauphine

Source: Easton/Newnam Field Airport, 2009.

3.3.1.4 Day-Night Operations

According to the information provided by the Airport, approximately 90 percent of all aircraft operations occur during daytime hours. **Tables E-4-5 through E-4-10 in Appendix E** present a detailed description of the day-night distribution of aircraft operations at ESN.

3.3.1.5 Runway Utilization

Runway utilization rates represent the percentage of the time that each runway is used for aircraft arrivals, departures, and touch-and-go operations. These utilization rates have a direct impact on the noise exposure around the airport. Runways that are used for more aircraft operations have larger noise contours beyond their ends than other runways if all other factors are equal. Runway utilization data addresses the operational flow of aircraft operations and the total number of aircraft operations and the number of operations conducted by each category of aircraft.

Runway use at ESN was obtained from historical ATCT records and from conversations with the ESN staff. **Table 3.3-3** provides a breakdown of runway utilization by aircraft category.

TABLE 3.3-3
RUNWAY UTILIZATION (2008 – EXISTING CONDITIONS)

Runway	Jet \ Turboprop	Prop	Helicopter
04	20%	10%	0%
22	75%	25%	0%
15	0%	5%	0%
33	5%	60%	0%
04H	0%	0%	50%
22H	0%	0%	50%

Source: Easton/Newnam Field Airport, 2009.

3.3.1.6 Flight Tracks

Flight tracks are geometric descriptions of the paths aircraft fly in relation to the ground. Unlike other modes of transportation, aircraft are able to travel over virtually unlimited paths across the earth's surface. On approach, aircraft flight paths must line up with the runway for landing, while on departure the flight path will remain on the runway heading until airspeed and altitude permit the aircraft to change course or direction. These operating procedures are designed for the safe and efficient operation of aircraft and result in less dispersion of flight tracks close to runway ends. However, at greater distances from the runway ends flights disperse and cover large areas of land, although at higher altitudes.

Flight track geometry and utilization for ESN were developed by discussions with the ESN staff. Flight tracks representing north and south flows of aircraft operations at ESN are presented in **Exhibits E-1 and E-2 in Appendix E.** These flight tracks do not represent the precise paths flown by all aircraft using the Airport. However, they do represent corridors where the preponderance of aircraft flight tracks are located. Deviations from flight tracks occur due to weather conditions, pilot techniques, air traffic control procedures, and aircraft weight. **Tables 3.3-4** through **3.3-6** present flight track utilization rates for each category of aircraft operating at ESN.

TABLE 3.3-4
DEPARTURE TRACK UTILIZATION (2008 – EXISTING CONDITIONS)

Runway	Flight Track	Civilian	Military
04	DEP-04-1	2%	2%
	DEP-04-2	98%	98%
22	DEP-22-1	100%	100%
15	DEP-15-1	100%	100%
33	DEP-33-1	100%	100%
04H	DEP-4H-1	100%	100%
22H	DEP-22H-1	50%	50%
	DEP-22H-2	50%	50%

Source: Easton/Newnam Field Airport, 2009.

TABLE 3.3-5
ARRIVAL TRACK UTILIZATION (2008 – EXISTING CONDITIONS)

Runway	Flight Track	Civilian	Military
04	APP-04-1	100%	100%
22	APP-22-1	100%	100%
15	APP-15-1	100%	100%
33	APP-33-1	100%	100%
04H	APP-4H-1	100%	100%
22H	APP-22H-1	100%	100%

Source: Easton/Newnam Field Airport, 2009.

TABLE 3.3-6
TOUCH-AND-GO TRACK UTILIZATION (2008 – EXISTING CONDITIONS)

Runway	Flight Track	Civilian	Military
04	TGO-04-1	100%	N/A
22	TGO-22-1	100%	N/A
15	TGO-15-1	100%	N/A
33	TGO-33-1	100%	N/A

Source: Easton/Newnam Field Airport, 2009.

In addition to flight tracks for arrivals and landings, flight tracks were also developed for "touch-and-go" operations. These operations consist of an aircraft landing and an immediate takeoff without stopping or exiting the runway. Touch-and-go aircraft operations are conducted as part of flight training in order for pilots to attain proficiency in conducting landings. The majority of touch-and-go operations are practiced in a repetitive manner with the aircraft remaining in proximity to the airport after departing in order to loop back around and initiate another landing. Touch-and-go flight tracks were developed for ESN to reflect the paths of these aircraft when conducting this type of operation. As shown in **Exhibit E-3 in Appendix E**, touch-and-go flight paths resemble racetrack ovals when viewed from above.

3.3.1.7 2008 Noise Exposure Map

Noise exposure levels resulting from Base Year (2008) operations are depicted as DNL contours in **Exhibit 3.3-2**. The figure depicts DNL values from DNL 65 to 75 dBA in 5 dBA increments. DNL contours are a graphic representation of how the noise from ESN's aircraft operations is distributed over the surrounding area on an average day of a given year. The total area encompassed by the DNL 65 dBA noise contour for Base Year 2008 is 197.5 acres. There are approximately 4.5 acres within the existing DNL 65 dBA contour outside the existing Airport property line, none of which are in noise sensitive areas. Approximately 4.3 of the 4.5 acres within the DNL 65 dBA off-Airport are across Old Centreville Road and US Route 50 from the Airport in areas zoned residential and commercial. The areas zoned for residential are undeveloped. There is also approximately 0.3 acres within the DNL 70 dBA contour that is outside the Airport property line across Old Centreville Road. East of the Runway 33 end, approximately 0.1 acres are in the DNL 65 dBA contour, but the land is zoned for Commercial use and already contains an

existing avigation easement. South of the Runway 4 end there are approximately 0.1 acres in the DNL 65 dB contour but the land is zoned for commercial use and is part of a parcel that is proposed herein for acquisition.

3.3.1.8 Existing Land Uses Compatibility

14 CFR Part 150 considers DNL 65 dBA as the threshold of noise compatibility with residential land uses. Thus, the DNL 65 dBA contour is an important measurement for impact assessments. Under the FAA land-use guidelines included in Part 150, all land uses are considered to be compatible with noise levels less than DNL 65 dBA. **Table 3.3-7** summarizes the amount of land by land use category that is located within the Airport's DNL 65, 70, and 75 dBA contours. The Airport's DNL 75 dBA contour does not extend off Airport property and does not impact surrounding land uses. The DNL 70 dBA contour extends onto less than 1 acre off-Airport property over land zoned as agricultural and transportation. The DNL 65 dBA contour extends onto less than 5 acres off-Airport property over land zoned as commercial, transportation, residential, and agricultural. **Exhibit 3.3-2** depicts the existing land use compatibility.

TABLE 3.3-7
NOISE EXPOSURE ESTIMATES (2008 – EXISTING CONDITIONS)

Land Use Type	DNL 65 to 70 dBA	DNL 70 - 75 dBA	DNL 75+ dBA	Total Over DNL 65 dBA
Airport Property	102.0 acres	46.0 acres	43.0 acres	191.0 acres
Residential (Off-Airport)	<1.0 acre	-	-	<1.0 acre
Agricultural (Off-Airport)	2.0 acres	<1.0 acre	-	3.0 acres
Commercial (Off-Airport)	<1.0 acre	-	-	<1.0 acre
Transportation (Off-Airport)	1.0 acres	<1.0 acre	-	2.0 acres
TOTAL	107.0 acres	48.0 acres	43.0 acres	198.0 acres

Source: URS Corporation, 2009.

3.4 AIR QUALITY

Existing air quality conditions in the area surrounding the ESN are discussed in this section, focusing on applicable air quality regulations, air monitoring data, meteorological conditions and sources of Airport-related air emissions.

3.4.1 APPLICABLE REGULATIONS

As required by the Clean Air Act (CAA), the EPA creates and enforces the National Ambient Air Quality Standards (NAAQS). The NAAQS have been established for a series of "criteria" pollutants that EPA has identified as being detrimental to ambient (i.e. "outdoor") air quality, corresponding to limits of these pollutants in the ambient air meant to protect human health (primary NAAQS), with emphasis on sensitive elements of the population such as asthmatics, children and the elderly, as well as environmental quality (secondary NAAQS). "Criteria" pollutants for which NAAQS have been established include carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO2), particulate matter measuring 10 micrometers or less

(PM10), particulate matter measuring 2.5 micrometers or less (PM2.5), and sulfur dioxide (SO2). **Table 3.4-1** provides brief descriptions of these "criteria" pollutants.

Areas with ambient air concentrations in excess of any applicable NAAQS are designated "non-attainment" of the NAAQS, while areas with ambient air concentrations lower than the NAAQS are considered in "attainment". Additionally, areas where violations of the NAAQS have been observed and consequently corrected are considered in "maintenance" of the applicable NAAQS. As shown in **Table 3.4-2**, the Talbot County area is currently in attainment of all NAAQS.

State and local air pollution control agencies can promulgate and enforce air quality standards that are stronger than the NAAQS if regional air quality conditions merit such an action. In the state of Maryland, the agency charged with the responsibility of air quality protection is the Maryland Department of the Environment (MDE). At the time of this writing, and as set forth by the Administrative Code of Maryland, the MDE has elected to retain the NAAQS; no stronger state-level air quality standards have been established.

Other important federal regulations guiding air quality management in attainment areas are the Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs. The PSD program ensures that attainment areas continue to attain the NAAQS by setting thresholds for criteria pollutants, meant to prevent air quality deterioration and potential future violations of the NAAQS. The Title V program requires stationary source owners and operators to obtain permits to operate, the requirements of which include but are not limited to emissions monitoring, implementation of control technologies, record-keeping and reporting.

TABLE 3.4-1
EPA CRITERIA AIR POLLUTANTS

Pollutant	Characteristic
Carbon Monoxide (CO)	CO is a colorless, odorless, tasteless gas and is largely the product of incomplete combustion of fossil fuels from mobile sources (e.g., motor vehicles). Other sources include industrial processes and coal, kerosene, and wood-burning stoves in homes.
Lead (Pb)	Lead is one of the naturally occurring metal elements that are classified as a heavy metal and can be toxic if inhaled or ingested. The lead content of motor vehicle emissions, which was the major source of lead in the past, has significantly declined with the widespread use of unleaded fuel. Currently, smelters and battery plants are the major sources of lead emissions.
Nitrogen Dioxide (NO_2)	NOx, which includes nitrous oxide (NO), nitrogen dioxide (NO_2), and the nitrate radical (NO3), is produced during fossil-fuel combustion at high temperatures and pressures. The gases are produced both as a by-product of incomplete combustion and during high temperature reactions of air and fuel. NOx is a precursor to O_3 formation, and NO_2 is an EPA criteria air pollutant. NOx is measured in ambient air as NO_2.
Ozone (O_3)	Ozone is formed when nitrogen oxides and volatile organic compounds react in the presence of sunlight. Ozone is subject to long-range transport and is considered a "regional" pollutant.
Volatile Organic Compounds (VOCs)	VOCs include all compounds containing both carbon and hydrogen. These compounds exist primarily in the gaseous form and are generated from incomplete combustion or emanate as evaporative emissions from fossil fuels.
Particulate Matter (PM)	PM comprises very small particles of dirt, dust, soot, or liquid droplets called aerosols. A criteria air pollutant, the regulatory standard for PM is segregated by sizes (i.e., < 10 and < 2.5 microns as PM_{10} and $PM_{2.5}$, respectively). PM is formed as an exhaust product in the internal combustion engine or can be generated from the breakdown and dispersion of other solid materials (e.g., fugitive dust).
Sulfur Dioxide (SO_2)	Sulfur is a contaminant of fossil fuels. Emitted as a gas (sulfur dioxide, SO_2) or a solid (sulfates, SO_4), SOx is an exhaust product of internal combustion engines. SOx is measured in ambient air as SO_2; a "criteria" air pollutant. Coal-fired power plants are typically the largest sources of sulfur dioxide.

Source: KB Environmental Sciences, Inc., 2009.

TABLE 3.4-2
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

Pollutant	Averaging Time	NAAQS		Talbot County Attainment Status
		Primary	Secondary	
Ozone (O_3)	8 Hour[1]	0.075 ppm	Same as Primary	Attainment
Carbon Monoxide (CO)	1 Hour[2] 8 Hour$_2$	35 ppm 9.0 ppm	– –	Attainment
Nitrogen Dioxide (NO_2)	Annual	0.053 ppm	Same as Primary	Attainment
Sulfur Dioxide (SO_2)	3 Hour[2] 24 Hour[2] Annual	– 0.14 ppm 0.03 ppm	0.5 ppm Same as Primary Same As Primary	Attainment
Respirable Particulate Matter (PM_{10})	24 Hour[3]	150 µg/m^3	Same as Primary	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24 Hour[4] Annual[5]	35 µg/m^3 15 µg/m^3	Same as Primary Same as Primary	Attainment
Lead (Pb)	3 Month[6]	0.15 µg/m^3	Same as Primary	Attainment

Source: EPA, http://www.epa.gov/air/criteria.html, accessed November 30, 2009.
ppm = parts per million; µg/m3 = micrograms per cubic meter
[1] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm.
[2] Not to be exceeded more than once per year.
[3] Not to be exceeded more than once per year on average over 3 years.
[4] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3.
[5] To attain this standard, the 3-year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.
[6] Corresponds to a rolling 3-month average.

3.4.2 BASELINE CONDITIONS

3.4.2.1 Air Monitoring Data

As previously mentioned, the MDE is the primary state agency responsible for air quality management in Maryland. Part of the MDE's air quality management responsibility is the installation and maintenance of a permanent ambient (i.e. "outdoor") air quality monitoring network. Notably, Talbot County currently has no active air monitors. The nearest active monitors to Talbot County are located in Anne Arundel County, Kent County and Calvert County, each of which has recorded O_3 and $PM_{2.5}$ concentrations between 2004 and 2008. **Table 3.4-3** summarizes $PM_{2.5}$ and O_3 data collected at these monitors for the most recent years of monitoring activity.

TABLE 3.4-3
AIR MONITORING DATA SURROUNDING TALBOT COUNTY, 2004 – 2008

Monitor Location	Approx. Distance from ESN (miles)	Pollutant	Year	Monitor Concentration	NAAQS
Millington Wildlife Management Area, Kent Co.	38	O_3	2004	0.078 ppm	0.075 ppm
			2005	0.084 ppm	
			2006	0.082 ppm	
			2007	0.083 ppm	
			2008	0.085 ppm	
Davidsonville Recreation Center, Anne Arundel Co.	32	O_3	2004	0.088 ppm	0.075 ppm
			2005	0.091 ppm	
			2006	0.092 ppm	
			2007	0.089 ppm	
			2008	0.081 ppm	
		$PM_{2.5}$ (Annual)	2004	12.5 µg/m3	15.0 $\mu g/m^3$
			2005	11.98 µg/m3	
		$PM_{2.5}$ (24-hour)	2004	36.8 µg/m3	35 $\mu g/m^3$
			2005	31.4 µg/m3	
350 Stafford Road, Calvert Co.	35	O_3	2005	0.082 ppm	0.075 ppm
			2006	0.083 ppm	
			2007	0.079 ppm	
			2008	0.077 ppm	

Source: EPA AirData (http://www.epa.gov/oar/data/), accessed November 30, 2009.

As shown in **Table 3.4-3**, the closest air monitors to the Airport area are at least 32 miles away. All of these monitors recorded O_3 concentrations between 2004 and 2008; only the Davidsonville monitor in Anne Arundel County recorded $PM_{2.5}$ in 2004 and 2005. As shown, all existing monitors operated and maintained by the MDE recorded violations of the 8-hour O_3 NAAQS during this time interval. In addition, the Davidsonville monitor showed a violation of the 24-hour $PM_{2.5}$ standard in 2004. These data notwithstanding, Talbot County represents a more rural area than its surrounding counties, according to MDE and EPA, and is currently in "attainment" of all applicable NAAQS.

3.4.2.2 Existing Meteorological Conditions

Maryland is located in an area where atmospheric currents are predominantly west to east, resulting in a "continental" mid-latitude climate with well-defined seasons. Winds are predominantly westerly over the entire state. Average wind speeds range between 10 and 12 miles per hour throughout the year.

Annual temperatures in Maryland range from approximately 44 to 66 degrees, with an average annual temperature of 55 degrees. Average summer temperatures are between 71 and 76 degrees, and although precipitation is evenly distributed throughout the year (averaging between 3 and 4 inches per

month), measured precipitation is slightly higher during the spring and summer months. Winter temperatures can reach below freezing, but on average range between 32 and 43 degrees.

3.4.2.3 Sources of Airport-Related Emissions

Since ESN is a General Aviation facility, the primary emissions sources are comprised of aircraft themselves, a small fleet of ground support equipment (GSE), limited motor vehicle traffic, small stationary-source facilities and fuel storage and transfer operations. Additionally, the proposed improvements scheduled at ESN will include construction activities, which often comprise a considerable, but temporary, source of air emissions. Such emissions mainly occur as a result of operating fossil-fueled construction equipment, asphalt paving operations, and the generation of dust from land clearing, demolition and equipment operation. **Table 3.4-4** provides details on the current sources of air emissions at ESN and the types of pollutants they emit.

TABLE 3.4-4
AIRPORT-RELATED SOURCES OF AIR EMISSIONS

Source	Pollutants[1]	Characteristics
Aircraft	CO, VOC, NO_x, PM, SO_2, Lead	Emitted as the exhaust products of fuel combustion in aircraft engines. The quantities and types can vary based on engine power setting and duration of operation. Emissions are generally assessed based on a typical landing/take-off cycle (i.e. taxi and delay, take-off, climb-out, approach and landing).
GSE	CO, VOC, NO_x, PM, SO_2	Emitted as the exhaust products of fuel combustion from the operation of service trucks and other equipment servicing the aircraft and the airport. Emissions differ by engine type, fuel type and activity level.
Motor Vehicles	CO, VOC, NO_x, PM, SO_2	Emitted as the exhaust products of fuel combustion from the operation of passenger, employee and other on-road vehicles operating on-airport property. Emissions differ by the engine type, fuel type, operating speed, ambient conditions, roadway conditions and distance travelled.
Stationary Source Facilities	CO, VOC, NO_x, PM, SO_2	Results from the combustion of fossil fuels from generators providing emergency power.
Fuel Storage and Transfer	VOC	Emissions are evaporative, resulting from vapor displacement and loss during storage during transfer. The level of emissions depend on the type of storage device, the type and amount of fuel stored, transfer and refueling methods, efficiency of vapor recovery and atmospheric conditions (i.e. temperature and relative humidity).
Construction Activities	CO, VOC, NO_x, PM, SO_2	Emissions in this category are temporary and result from construction equipment exhaust, VOC emissions from asphalt paving operations and PM emissions due to entrainment of dust resulting from construction, demolition and site clearing operations.

Source: KB Environmental Sciences, Inc. 2009.
[1] At ground level and during stable atmospheric conditions, VOC and NOx react with sunlight to form O_3.

3.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(F)

Section 4(f) resources include public parks and recreation areas, and wildlife and waterfowl refuges or management areas of national, state, or local significance. Section 4(f) also applies to historic sites of national, state, or local significance, as determined by the Official that has jurisdiction over these historic resources. Such sites are those that are listed or eligible for listing in the National Register of Historic Places (NRHP), as well as those identified by appropriate state or local agencies as having historical significance.

There are no Section 4(f) resources located on Airport property or within the immediate vicinity.

3.6 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Consideration of the effects Federal actions to cultural resources is mandated by Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470-470w-6). Section 106 requires Federal agencies to take into consideration the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings, as appropriate. The procedures for implementing Section 106 are contained in the ACHP regulations 36 CFR Part 800, *Protection of Historic Properties*.

These regulations define a Federal undertaking as an action that is proposed by a Federal agency (or a project proposed by others that will receive funding, permits, licenses, or authorizations from Federal agencies) that has the potential to affect historic properties. Historic properties are defined as properties that are either listed in or eligible for listing in the NRHP, including buildings, structures, historic districts, objects, sites, or archaeological resources. These regulations implementing the NRHP may be found in 36 CFR 60.4.

The Maryland Historical Trust was consulted in order to document the historic resources within the immediate vicinity of the Airport. Coordination with the Maryland Historical Trust indicates that there are no properties that are located within the proposed project areas (see **Appendix B**).

3.7 FARMLANDS

According to the *Soil Survey of Talbot County, Maryland* (July 9, 2009), accessed via the Natural Resource Conservation Service Web Soil Survey database, there are several different soil types located within the Airport and surrounding area (see **Table 3.7-1** and **Exhibit 3.7-1**).

The Farmland Protection Policy Act (FPPA), Public Law 97-98, 7 USC 4201-4209, was enacted as part of the Agriculture and Food Act of 1981 to minimize the extent to which federal programs contribute to unnecessary and irreversible conversion of farmland to nonagricultural uses. Important farmlands include all pasturelands, croplands, and forestlands that are considered to be Prime, Unique, and Statewide or Locally Important lands. As part of the FPPA, the United States Department of Agriculture (USDA) -

Natural Resource Conservation Service (NRCS) has defined Prime Farmland as land that has chemical and physical characteristics, which support food production, feed, and fiber production. Statewide important soils are soils that are among the most productive soils in the State for agriculture and forestry. Unique soils are classified as soils that are unique to the region and are used for specific agriculture or industrial purposes. The FPPA does not apply to land that is already committed to urban development, regardless of whether it has been classified as Prime or Statewide Important farmland by the NRCS.

TABLE 3.7-1
SOIL TYPES WITHIN THE VICINITY OF THE AIRPORT

Map Unit Symbol	Map Unit Name	Rating
CsA	Corsica mucky loam, 0 to 2 percent slopes	Farmland of statewide importance
CsA	Crosiadore silt loam, 0 to 2 percent slopes	Farmland of statewide importance
CsB	Crosiadore silt loam, 2 to 5 percent slopes	Farmland of statewide importance
EmA	Elkton silt loam, 0 to 2 percent slopes	Farmland of statewide importance
FaA	Fallsington sandy loam, 0 to 2 percent slopes	Farmland of statewide importance
FgA	Fallsington loam, 0 to 2 percent slopes	Farmland of statewide importance
HfA	Hambrook-Sassafras complex, 0 to 2 percent slopes	All areas are prime farmland
HfB	Hambrook-Sassafras complex, 2 to 5 percent slopes	All areas are prime farmland
HfC	Hambrook-Sassafras complex, 5 to 10 percent slopes	Farmland of statewide importance
IgB	Ingleside sandy loam, 2 to 5 percent slopes	All areas are prime farmland
KnA	Kentuck mucky silt loam, 0 to 2 percent slopes	Farmland of statewide importance
LgA	Lenni loam, 0 to 2 percent slopes	Farmland of statewide importance
MtA	Mattapex silt loam, 0 to 2 percent slopes	All areas are prime farmland
MtB	Mattapex silt loam, 2 to 5 percent slopes	All areas are prime farmland
MxC	Mattapex-Woodstown complex, 5 to 10 percent slopes	Farmland of statewide importance
NsA	Nassawango silt loam, 0 to 2 percent slopes	All areas are prime farmland
NsB	Nassawango silt loam, 2 to 5 percent slopes	All areas are prime farmland
OtA	Othello silt loam, 0 to 2 percent slopes	Farmland of statewide importance
UbB	Udorthents, borrow area, 0 to 5 percent slopes	Not prime farmland
UoB	Udorthents, loamy, 0 to 5 percent slopes	Not prime farmland
Up	Urban land	Not prime farmland
W	Water	Not prime farmland
WdA	Woodstown sandy loam, 0 to 2 percent slopes	All areas are prime farmland
WdB	Woodstown sandy loam, 2 to 5 percent slopes	All areas are prime farmland
WoA	Woodstown loam, 0 to 2 percent slopes	All areas are prime farmland
WoB	Woodstown loam, 2 to 5 percent slopes	All areas are prime farmland
Zk	Zekiah silt loam, frequently flooded	Not prime farmland

Source: *Soil Survey of Talbot County, Maryland*, July 9, 2009.

3.8 WATER RESOURCES

3.8.1 DRAINAGE AND STORMWATER CHARACTERISTICS

The Airport is located within the Chester River Watershed. Stormwater drainage from the Airport flows to the Miles River, which outlets into the Eastern Bay, which flows directly into the Chesapeake Bay. For the *Comprehensive Stormwater Management Plan* for Easton Airport, the study area was divided into 9 drainage areas, which were then broken down into 35 sub-drainage areas (see **Exhibit 3.8-1**). According to the *Comprehensive Stormwater Management Plan*, stormwater within these drainage areas is characterized as follows:

DA 1: Stormwater is conveyed by shallow concentrated flow, and through ditches, which ultimately outlet into a tributary to Glebe Creek.

DA 2: Stormwater is collected in a series of drainage ditches and underground pipe systems, which conveys water to a ditch that outlets the water into a tributary to Glebe Creek.

DA 3: Stormwater is collected via shallow concentrated flow. The water eventually meanders to a ditch that ultimately outlets into a tributary to Glebe Creek.

DA 4: Stormwater is collected in an underground pipe system, which conveys water to a ditch along the edge of the Airport property. The ditch drains the water into a tributary to Glebe Creek.

DA 13: Stormwater is collected in several underground pipe systems, which convey the water to a ditch that ultimately outlets into a tributary to Glebe Creek.

DA 20: Stormwater is collected via shallow concentrated flow. The water eventually meanders to a ditch that ultimately outlets into a tributary to Glebe Creek.

DA 25: Stormwater is collected via overland flow and underground pipe systems. Within this drainage area, there are three stormwater management facilities that treat the water before it leaves the airport property. Once the water is off of the Airport property, it travels through a ditch, which eventually outlets into a tributary to Goldsborough Creek.

DA 26: Stormwater is collected via overland flow. The water eventually meanders into a ditch that ultimately outlets the water into a tributary of Goldsborough Creek.

DA 27: Stormwater is collected via overland flow before leaving the Airport property. The water travels through a ditch system and eventually into a tributary to Potts Mill Creek.

Runoff at the Airport is collected at several locations, with an ultimate deposit into the Miles River. On the southwestern side of the Airport, runoff is directed through two stormwater management ponds, which is

accepted by the MDE and the Talbot County Soil Conservation District as a Best Management Practice (BMP) under Maryland's Stormwater Management requirements. Runoff from the remainder of the Airport is not treated before directly outletting into the Miles River.

3.8.2 SURFACE WATER

The State of Maryland has adopted standards to protect surface water quality. The Surface Water Quality Standards, which are contained in the Code of Maryland Regulations (COMAR) and administered by the MDE, consist of two parts: classifications based on the designated uses of the waters of Maryland and criteria to protect those uses. Designated use classifications are as follows:

- Use I: Water contact recreation and protection of aquatic life.
- Use I-P: Similar to Use I, with the additional use for public water supply.
- Use II: Shellfish harvesting waters.
- Use III-P: Natural trout waters and a source of public water supply.
- Use IV: Recreational trout waters.
- Use IV-P: Recreational trout waters and public water supply.

The portion of the Miles River within the vicinity of the Airport is designated as Use II.

3.9 COASTAL RESOURCES

ESN is required to comply with the regulations set forth in the Coastal Zone Management Act of 1972 (CZMA), as amended through Public Law (PL) 104-105, the Coastal Zone Protection Act of 1996. The CZMA requires that each state with coastal boundaries establish a Coastal Zone Management Program (CZMP), which in Maryland, is administered by the MDE and Maryland Department of Natural Resources (MDNR). These governing agencies are charged with identifying land uses which, individually or cumulatively, may cause or contribute significantly to the degradation of coastal waters where there is a failure to attain or maintain applicable water quality standards or protect designated uses, as determined by the state pursuant to the water quality planning process or coastal waters that are threatened by reasonably foreseeable increases in pollution loading from new or expanding sources.

The Maryland Coastal Zone Management Program identifies all of Talbot County as part of Maryland's Coastal Zone.

3.10 WILD AND SCENIC RIVERS

The US Department of the Interior (DOI) maintains a national inventory of river segments, which appear to qualify for inclusion in the National Wild and Scenic River System. The Maryland Wild and Scenic Rivers Program maintains a State inventory of rivers that possess remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values to the State of Maryland.

A review of the DOI National Park Service National Rivers Inventory website (last updated February 27, 2009) and the MDNR Scenic and Wild Rivers Inventory website (accessed October 23, 2009) indicated that there are no Federal or State designated, nor potentially eligible Wild and Scenic Rivers on or within the vicinity of the Airport.

3.11 FLOODPLAINS

Executive Order 11988, Floodplain Management, defines floodplains as the "lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in a given year."

According to the Federal Emergency Management Agency Flood Insurance Rate Maps (Community Panel Number 240067 0001B, September 28, 1984), the majority of the Airport and surrounding area are located within Zone C, Areas of Minimal Flooding (see **Exhibit 3.11-1**). A small portion of the Airport property along an unknown tributary to Goldsborough Creek, located in the northwest corner of the property near the intersection of Airport Road and Goldsborough Neck Road, is located within Zone A, Areas of 100-year floodplain where the base flood elevations have not been determined.

3.12 WETLANDS

Wetlands are areas found along streams, rivers, springs, ponds, and drainage ditches. Jurisdictional wetlands are defined by the US Army Corps of Engineers (COE) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of jurisdictional wetlands, those wetlands that are protected by the Clean Water Act (CWA), meet three delineation criteria: a prevalence of wetland-associated vegetation, hydric (wetland-type) soils), and wetland hydrology.

WETLAND DELINEATIONS

Numerous field investigations have occurred over the years associated with various projects at the Airport. In support of the *Environmental Assessment for Clearing FAR Part 77 Airport Surfaces* (January 2003), prepared by others, a wetland delineation was completed and surveyed in 2000, and a Jurisdictional Determination (JD) was issued by the COE on June 6, 2002. Thirteen wetland areas were identified at that time. **Note**: A Joint (Federal/State) Permit Application (JPA) was submitted to the MDE on May 8, 2009 for potential impacts to 157,252 square feet of non-tidal wetlands and 60,682 square feet of non-tidal wetland buffer that would result from the removal of obstructions (trees) to 14 CFR Part 77 surfaces. This JPA is currently under review. In addition, Phase I mitigation plans have been prepared and approved by MDE for an offsite location to compensate for the 3.61 acres of impact.

In support of an *Environmental Evaluation Form C* (September 2005), prepared by others, for the proposed expansion of the Southwest Apron and construction of corporate hangars at the Airport, wetlands within the project area were delineated and surveyed in 2004. A JD was received by the COE

on April 27, 2004. **Note**: A JPA was submitted on September 21, 2004 for impacts to 42,994 square feet of non-tidal wetland and 82,677 square feet of non-tidal wetland buffer. Subsequent design changes to the apron and corporate hangar layout resulted in a decrease in impacted areas. The JPA was approved and a Non-tidal Wetlands and Waterway Permit was received on September 26, 2005 for permanent impact to 26,136 square feet of non-tidal wetlands and 60,984 square feet of wetland buffer. Mandatory mitigation involved the creation of 52,272 square feet of forested non-tidal wetlands and 3,114 square feet of emergent non-tidal wetlands at an off-site location in Talbot County. On March 10, 2006, the County purchased 1.27 acres of wetland mitigation to fulfill this requirement.

In support of the *Airport Layout Plan Update* (August 2006), prepared by others, additional wetlands were delineated and surveyed in 2005. A new JD was then issued on March 24, 2006 that included the JDs of 2002 and 2004. During the 2005 field investigations, ten wetland areas were observed; however, most of these wetland areas were originally delineated as part of the June 6, 2002 JD effort.

In support of this EA, additional field investigations were conducted in October and November 2009 to complete the location and delineation of jurisdictional wetlands and waters within and adjacent to Airport property. Five additional areas were located, delineated and surveyed (see **Exhibit 3.12-1**). Other drainage features were also examined, but not included as they did not meet the requirements of either wetland or "Waters." The added areas are identified by number using a continuation of the numbering system included in the 2006 JD. Area 7 is the remainder of a wooded wetland partially mapped in the 2006 JD and located adjacent to Airport Road. Area 20 is a narrow drainage swale largely within the grassed right of way for Airport Road and adjacent to Area 7. It is classified as "Waters of the United States." Area 20 drains into Area 19 which is also 'Waters of the United States." Area 19 originates as the discharge from an underground pipe at the northwest end of Runway 15-33 and continues north under Airport Road where it becomes wetland Area 9 included in the 2006 JD. Area 18 is located southeast of the opposite end of Runway 15-22. This emergent wetland begins off-site to the south and the north end drains into a culvert. The final wetland area (21) is located south of the Airport property on the adjoining parcel owned by Easton Exchange LLC. This drainage is largely emergent wetlands with some shrub and small trees along the borders. A field verification was conducted with the COE on November 17, 2009. These areas were added to the existing map of delineated wetlands and Waters and submitted to the local COE field office as a requested modification to the 2006 JD. A JD was received by the COE; the JD is valid until March 23, 2014 (see **Appendix B**). The additional areas are further described in the Easton Airport 2009 Wetland Delineation Report (**Appendix B**).

3.13 FISH, WILDLIFE, AND PLANTS

The Airport and its vicinity is comprised of a range of ground cover types, including managed grassland, cultivated soy beans, loblolly pine forests, mixed hardwood forests, scrub-shrub wetlands, emergent wetlands, and forested wetlands.

3.13.1 MARYLAND FOREST CONSERVATION ACT

In accordance with the Annotated Code of Maryland (Natural Resource Article, Title 5, Subtitle 16) and COMAR Title 08, Subtitle 19, Forest Conservation, a Forest Stand Delineation (FSD) was completed for the Airport in March 2008 (see **Appendix B**). Three forested areas totaling 44.53 acres were identified on Airport property. Within these three areas, seven forest stands were delineated. Dominant and co-dominant species observed included loblolly pine, red maple, northern red oak, white oak, American beech, southern red oak, Virginia pine, willow oak, and sweet gum (see **Exhibit 3.13-1**).

3.13.2 RARE, THREATENED, AND ENDANGERED SPECIES

Under Section 7(c) of the Endangered Species Act of 1973 (16 USC 1531 *et seq*.) and FAA Order 1050.1E, Federal agencies are required to consult with all Federal and state agencies regarding Federally- and State-listed threatened and/or endangered species in the proposed project area.

Previous environmental studies have identified the presence of the Delmarva fox squirrel (*Sciurus niger cinereus*) (DFS), a Federally-listed endangered species, within the vicinity of the Airport. In support of the *Environmental Assessment for the Clearing of FAR Part 77 Airport Surfaces* (January 2003), prepared by others, four areas (Areas A, B, C, and D) within the vicinity of the Airport were identified as potential DFS habitat. Two trapping surveys were conducted during October 1999 and March 2000 and of the four areas surveyed, three areas (Areas A, B, and C) contained DFS (see **Exhibit 3.13-2**). The US Fish and Wildlife Service (FWS) concurred with these trapping locations and findings.

For the prior EA, formal consultation in accordance with Section 7 of the Endangered Species Act (ESA) was initiated for impacts to DFS and in August 2005, the FWS transmitted their Biological Opinion (BO). Specific to DFS, the BO was based upon impacts to 7 acres of DFS habitat. The BO stated that for long-term protection of the DFS, the FAA and the applicant (Talbot County) are committed to implementation of a conservation easement to protect in perpetuity 21 to 30 acres of mature forested habitat supporting DFS. Recently a site was selected and approved by the FWS for this easement. The County is currently in the process of obtaining this conservation easement through the North American Land Trust.

Coordination has been ongoing with the FWS regarding the proposed projects presented in this EA. FWS had advised that no additional trapping surveys will be completed; it will be assumed that DFS are still present in Areas A, B, and C originally identified as containing DFS habitat. Formal consultation in accordance with Section 7 of the ESA will be initiated. All subsequent coordination efforts will be contained in the next submittal.

3.14 HAZARDOUS WASTE, POLLUTION PREVENTION, AND SOLID WASTE

Information presented in this section pertains to the generation, disturbance or disposal of environmental contaminants and hazardous materials at the Airport and immediately surrounding area. The assessment presented in this section adheres to the following regulations and recommendations set forth in the following guidance: FAA Order 1050.1E, FAA Order 5050.4B, and the FAA Environmental Desk Reference for Airport Actions.

3.14.1 FEDERAL AND STATE REGULATIONS

3.14.1.1 Hazardous Materials

Federal legislation, enforced by the EPA and summarized in **Table 3.14-1**, jointly regulates the release, handling and remediation of hazardous materials. At the state level, the MDE is primarily responsible for making sure Federal hazardous materials regulations are enforced and upheld. State-level regulations, meant to both ensure proper enforcement of Federal regulations as well as to account for regionally specific problems, have been incorporated into the Administrative Code of Maryland. These regulations are also summarized in **Table 3.14-1**

TABLE 3.14-1
REGULATIONS PERTAINING TO HAZARDOUS MATERIALS MANAGEMENT IN TALBOT COUNTY

Regulation	Description
Federal	
Clean Air Act (CAA) Title I	Addresses the release of hazardous or toxic contaminants into the atmosphere
Clean Water Act (CWA)	Regulates levels of hazardous materials and other contaminants in the drinking water and groundwater
Emergency Planning and Community Right to Know Act (EPCRA)	Informs the public and emergency officials about the presence and dangers of hazardous materials in their surrounding areas
Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or "Superfund")	Allocates government funds and resources to ensure timely remediation of accidental or unintentional release of hazardous material and environmental contaminants
Federal Insecticide Fungicide and Rodenticide Act (FIFRA)	Guides management and regulation of toxics associated with pest and weed control
Hazardous Materials Transportation Act (HMTA)	Manages safe transport of hazardous waste
Pollution Prevention Act of 1990	Requires that pollution shall be prevented or reduced at the source wherever feasible
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from "cradle to grave"
Safe Drinking Water Act (SDWA)	Regulates levels of hazardous materials and other contaminants in the drinking water
Toxic Substances Control Act (TSCA)	Guides the process of introducing new toxic contaminants into the environment
State	
§26.02.01 - §26.02.07	Occupational, Industrial and Residential Hazards
§26.10.01 - §26.10.15	Oil Pollution and Tank Management
§26.13.01 - §26.13.13	Disposal of Controlled Hazardous Substances
§26.14.01 - §26.14.02	Hazardous Substances Response Plan
§26.15.01 - §26.15.03	Disposal of Controlled Hazardous Substances – Radioactive Hazardous Substances
§26.16.01 - §26.16.06	Lead Exposure, Monitoring and Abatement
§26.26.01	Community Right-to-Know Fund
§26.27.01	Hazardous Materials Security

3.14.1.2 Solid Waste

The main Federal regulations by which solid waste is controlled are the Resource Conservation and Recovery Act (RCRA) - Hazardous and Solid Waste Amendments of 1984 (HSWA) and the Solid Waste Disposal Act (SWDA) of 1965. As defined under the SWDA, solid waste includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses. Additionally, MDE enforces

additional regulations included in the Administrative Code of Maryland that assist with maintaining Federal requirements at the State level. Regulations pertaining to solid waste management are summarized in **Table 3.14-2.**

TABLE 3.14-2
REGULATIONS PERTAINING TO SOLID WASTE MANAGEMENT IN TALBOT COUNTY

Regulation	Description
Federal	
Resource Conservation and Recovery Act (RCRA)	Sets important standards and practices regarding the generation and management of hazardous materials from "cradle to grave"
Solid Waste Disposal Act (SWDA)	Includes any garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, including that generated from industrial, commercial, agricultural and other land uses
State	
§26.03.01 - §26.03.12	Water Supply, Sewerage, Solid Waste and Pollution Control Planning and Funding
§26.04.01 - §26.04.10	Regulation of Water Supply, Sewage Disposal and Solid Waste

3.14.2 METHODOLOGY

The impact assessment performed for this EA involved: 1) addressing the potential for existing or future environmental contamination or hazardous materials in the area of the proposed projects and 2) identifying the types and amounts of these contaminants that may occur as a result of the construction and operation of the proposed projects.

Much of the information gathered for this assessment was derived from an electronic environmental records search prepared by Environmental Data Resources, Inc. In summary, information assessed during the environmental screening, including the environmental records search, included: a survey of aerial photographs from 1959 to 2005 and environmental regulatory agency database records.

Information on the environmental features of the study area, including topography, soil stratigraphy and other geologic features, and surface and groundwater hydrology was gathered using information available from the US Geological Survey (USGS) and the USDA.

The search radius ranged between one and two miles of the target property, centered at the intersection of the existing runways at ESN. Important environmental records determined as a result of the database search include: reported petroleum or hazardous waste releases; permitted hazardous waste generation, transport, storage or disposal; presence of current or past hazardous waste disposal sites; permitted solid waste disposal facilities; registered storage tanks within the search radius; and reported releases from storage tanks within the search radius.

3.14.3 FINDINGS

The results of the electronic environmental records search identified a variety of sites located on and off the Airport property that are reported to contain hazardous materials and other regulated substances. The majority of these sites were reported because they possess above- or under-ground storage tanks (AST/UST), or are listed as small quantity generators (SQG) of hazardous materials. Additional details regarding these sites and their potential impact on the planned improvements to ESN, are discussed in **Section 4.13** of this document.